

IN THE CLAIMS

This listing of claims replaces all prior versions, and listings, in this application.

Claims 1-12 (canceled)

13. (withdrawn/currently amended) A method for transferring N-acetyl-D-glucosamine from a donor substrate to an acceptor substrate through β 1,3-linkage, wherein “ β ” represents an anomer assuming a cis configuration, of anomers of glycosidic linkage at position 1 of the sugar ring, the method comprising reacting the donor substrate and the acceptor substrate with a β 1,3-N-acetyl-D-glucosaminyltransferase protein, wherein the protein comprises the following amino acid sequence of SEQ ID NO: 2 or SEQ ID NO: 16. ~~[[::]]~~

~~(A) SEQ ID NO: 2, SEQ ID NO: 16, or SEQ ID NO: 17; or~~

~~(B) SEQ ID NO: 2, SEQ ID NO: 16, or SEQ ID NO: 17 in which one or to 20 amino acid(s) is(are) substituted, deleted, or inserted.~~

14. (currently amended) An isolated β 1,3-N-acetyl-D- glucosaminyltransferase protein comprising the amino acid sequence of SEQ ID NO: 2 or SEQ ID NO: 16 ~~glycosyltransferase protein~~, wherein the protein has ~~at least one of the following~~ properties (a) to (c):

- (a) acceptor substrate specificity: the protein transfers GlcNAc from UDP-GlcNAc to an acceptor substrate having an oligosaccharide residue in a quadruple-stranded form at the nonreducing end of an N-linked oligosaccharide through a β 1,3 glycosidic linkage and synthesizes an oligosaccharide ~~has a significant transferring activity for at least Bz- β -lactoside and/or Gal β 1-4GlcNAc groups, wherein “Bz” represents a benzyl group, “Gal” represents a galactose residue, wherein “GlcNAc” represents an N-acetyl-D-glucosamine residue, and “ β ” represents an anomer assuming a cis configuration, of anomers of glycosidic linkage at position 1 of the sugar ring;~~
- (b) reaction pH: the protein has a high activity at or around neutral; and ~~[[or]]~~

- (c) divalent ion requirement: the activity is enhanced in the presence of at least Mn^{2+} or Co^{2+} .

Claims 15-23 (canceled)

24. (withdrawn/currently amended) The method according to Claim 13, wherein the protein has ~~at least one of~~ the following properties (a) to (c):

- (a) acceptor substrate specificity: the protein transfers GlcNAc from UDP-GlcNAc to an acceptor substrate having an oligosaccharide residue in a quadruple-stranded form at the nonreducing end of an N-linked oligosaccharide through a β 1,3 glycosidic linkage and synthesizes an oligosaccharide~~has a significant transferring activity for at least Bz- β -lactoside and/or Gal β 1-4GlcNAc groups, wherein "Bz" represents a benzyl group, "Gal" represents a galactose residue, "GlcNAc" represents an N-acetyl-D-glucosamine residue, and " β " represents an anomer assuming a cis configuration, of anomers of glycosidic linkage at position 4 of the sugar ring;~~
- (b) reaction pH: the protein has a high activity at or around neutral; and [[or]]
- (c) divalent ion requirement: the activity is enhanced in the presence of at least Mn^{2+} or Co^{2+} .

Claims 25-30 (canceled)

31. (new) The method according to Claim 13, wherein the protein comprises the amino acid sequence of SEQ ID NO: 2.

32. (new) The method according to Claim 13, wherein the protein comprises the amino acid sequence of SEQ ID NO: 16.

33. (new) The protein of Claim 14 comprising the amino acid sequence of SEQ ID NO: 2.

34. (new) The protein of Claim 14 comprising the amino acid sequence of SEQ ID NO: 16.